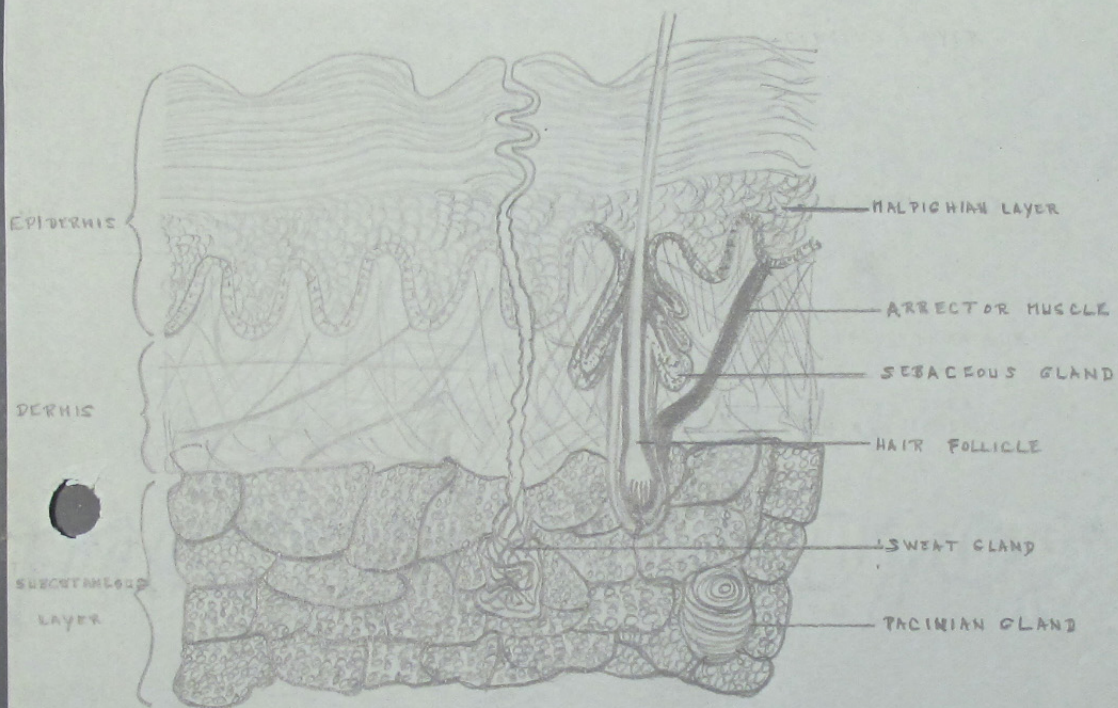


VERTICAL SECTION OF THE SKIN





- registers heat, cold, touch,  
pressure, pain.

4) Excretory organ.

6 lbs.  $\text{CO}_2$  daily.

5) Absorbing organ.

oils & ointments.

### Care of skin.

- moist & firm.

- cleansing important.

Pruritus - food & digestive irritation.

- Treatment - mild cathartic  
very light diet.  
fresh food.

Ringworm - fungus growth.

- between toes frequently (athletes' foot)

Dry skin - lack of exercise

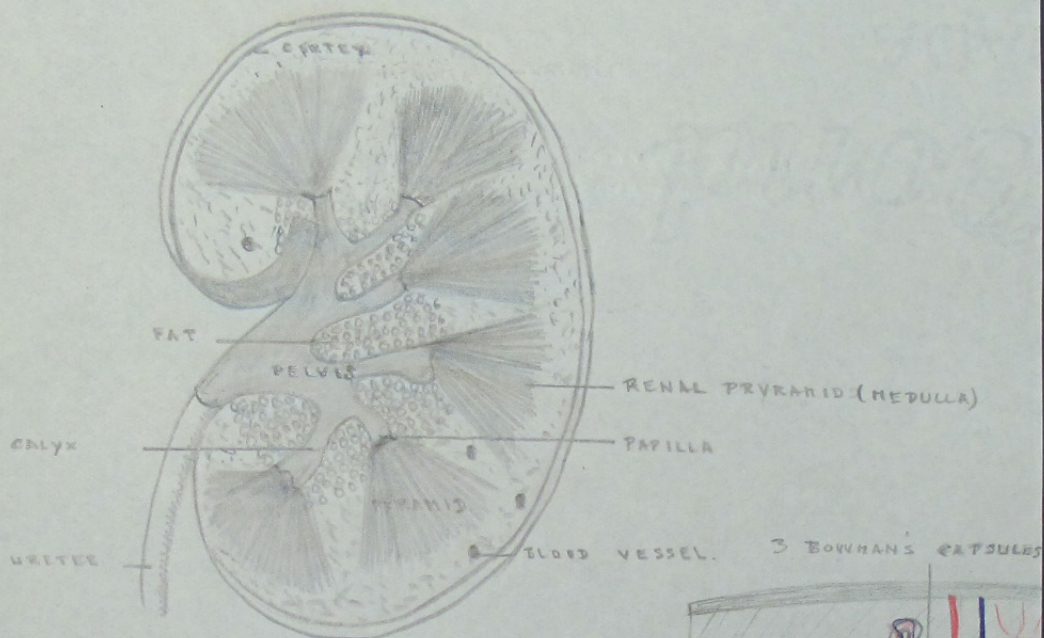
- faulty nutrition

- fresh air & sunlight.

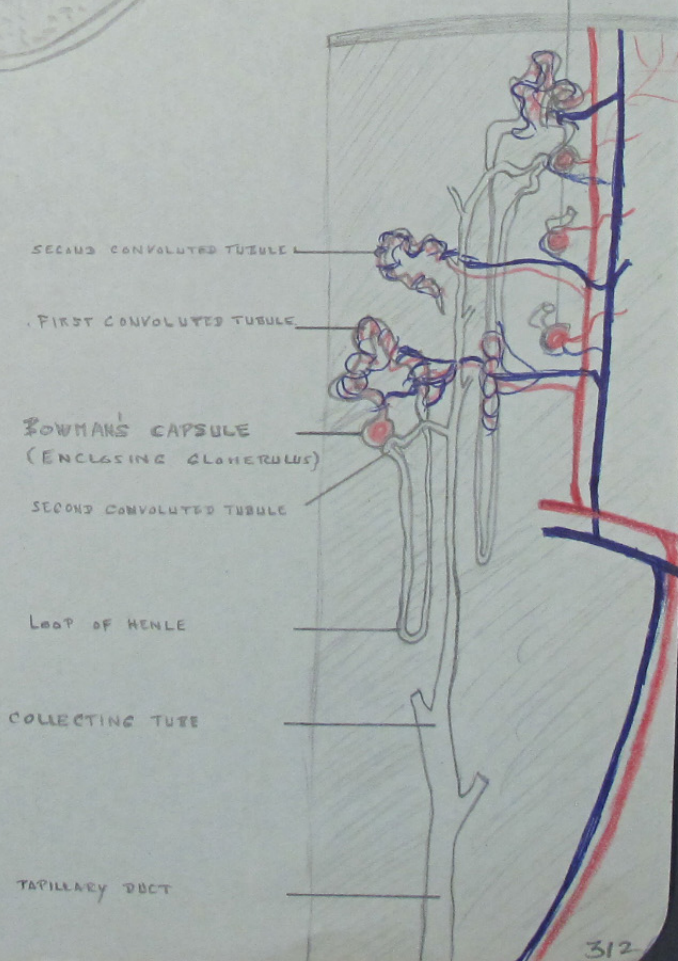
- absorption of toxins from local infections



## SECTION OF A KIDNEY



## UNIT OF KIDNEY STRUCTURE





## Excretion

Skin - water, oils, salts,  $CO_2$ , urea.  
- cools surface of body.  
- skin should be clean, diet watched.

Liver - aids in preparation of wastes  
for kidney elimination.

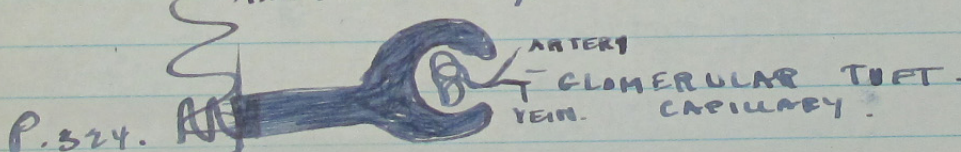
Lungs -  $CO_2$  + water & heat.

Intestines - undigested food.  
- contains bile pigments +  
nitrogenous compounds.

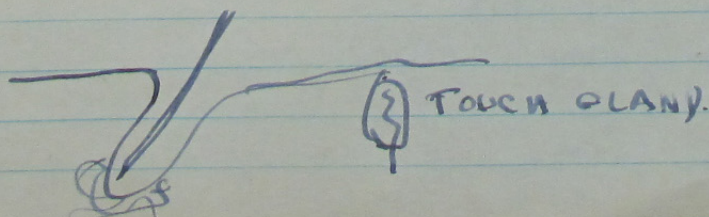
## Kidneys -

- blood from renal artery.  
- urine filtered out of kidneys.

MALPIGIAN BODY.



- absorbed 20 gal. a day.  
body re-absorbed liquid (refined)  
- blood pressure produces extra urine.  
- protein excreted after exercise.  
(breakdown in capsule or tuft)





## Muscular exercise.

- 1) increase of bodily activities upon work of kidneys.
- 2) increased production of heat + then cooling of body.

## Nervous Systems.

Central - brain

C.N.S.

spinal cord  
nerve trunks

BB

ectoderm - 1<sup>st</sup> nervous tissue.

- embryo time with inherited nervous tissue.

- sensory brain developed first (small)

- cortex - thinking part of brain.

intelligence - reason + inference.

brain - sth. top - vertex.

- protection - meninges.

meninges - dura - mater

pia - mater arachnoid

pia - mater

- cover brain + spinal cord.

cerebrum - spinal fluid - between 1<sup>st</sup> & 2<sup>nd</sup> layers.

brain - cerebrum

convolutions

cerebellum

sulci

brain stem

gray material - cell bodies.

neurolemma - nerve covering.

dark - cell bodies

white - nerve fibres



Cerebellum - unconscious part of brain.

- sensations to & from c.

- helps cerebrum to act.

- stops movements when you want it. (balance).

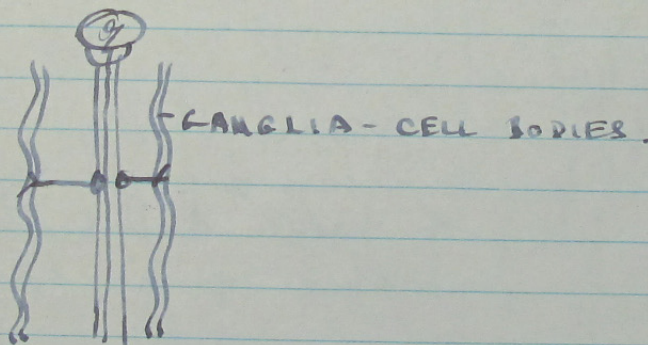
- rhythmic repetition.

1) maintains muscles in normal state of tension. (tonus, tonicity)

2) maintains

3) simplifies cerebral cortex.

Involuntary Nervous System.  
chain of ganglia.



Care of nervous system.

- be moderate.

- no self-medication.

Diseases.

- polio & spinal-meningitis

- syphilis

- arthritis.

- tabes



Paralysis - injury to nerve fibres.  
(muscle won't work)

Mental hygiene - Alfred Adler - inferiority complex.

Freud - dreams.

suppressed desires etc.

- sub-conscious mind

psycho-analysis.

Meng - 2 personalities. - supplemental & complement  
of own personality.

- male & female traits

in both sexes

Introverts & extroverts.

Karl Meninger

The Human Mind.

artistic  
creative

interested in people.

Henry - ineffectual.

Self-confidence - essential.

Over-confidence - learn from experience.

- intelligent people don't make the  
mistakes again.

- face facts.

- be impersonal to children.



## Nervous & Emotional Adjustments

### Central nervous system

- brain & spinal cord.

### Peripheral

- skin, glands & tissues

### Composed of nervous connective tissue

- nerve cells (neurons)

1) sensory - sensations to n. system

2) motor - " from "

3) association - located in

central nervous system (brain)

- establish connections with subdivisions.

- between motor & sensory neurons

Brain - 3 lbs.      nervous - th.

cortex - thinking part.

meninges - protection.

1) dura mater

2) aracnoid

3) pia mater.

Cerebro-spinal fluid between 1<sup>st</sup> & 2<sup>nd</sup> layers.

3 parts

1) cerebrum

2) cerebellum

3) brain stem.

Nerves - neurones - long nerve fibres.

gray matter - cell bodies

white " - nerve fibres.



Neurolemma - nerve covering -

Fibres - axons + dendrites.

Nerve impulses - travel in 1 direction.

Synapse - apposition of axone + dendrite.

3 types neurone.

1) Sensory - afferent.

2) Motor - efferent.

3) Internuncial - C.N.S. only.

Internuncial - transmit stimuli from motor to sensory fibres.

Stimuli - received in brain.

Sensations - touch interpreted in cerebral cortex.

31 spinal nerves.

12 pr. cranial nerves.

Spinal nerve - union of dorsal + ventral roots.

Spinal Ganglion - thickening of dorsal root.

Dorsal root - sensory nerves.

Ventral root - motor nerves.

∴ - spinal cord is mixed, contains both nerves - reflex action.

- brain not primarily involved.

Sympathetic N.S.

- nerves in group of ganglia // with spinal cord.

- connected with brain by roots.

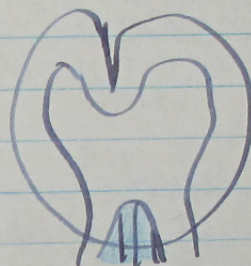
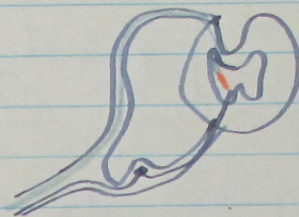
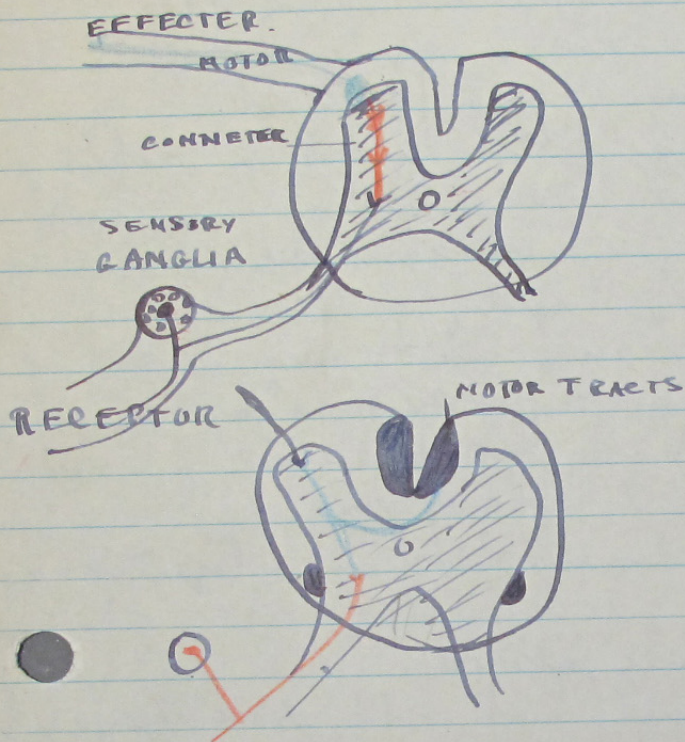
- organ activity controlled reflexly.

Crank - flexors + extensors work together.

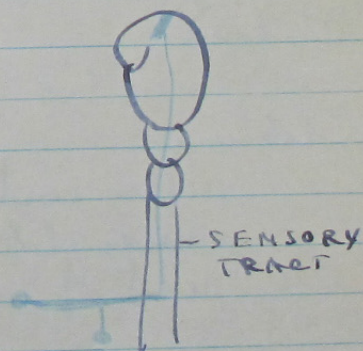


31/12 - Brain nerves.

hemispheres joined - corpus callosum.



ganglion - group of cell bodies, loosely knit.  
cell bodies - in C.N.S (except sympathetic S).







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